

WPI

- TI - Electric power convertor - has commutation reactor connected between side terminal of main circuit bridge and auxiliary circuit bridge, which turn ON or OFF main circuit bridge, in resonance with commutation capacitor
- AB - JP11055954 NOVELTY - Commutator capacitors (31e-34e) are connected between nodes of each parallel circuit of auxiliary bridge circuit (30). Commutation reactors (21a,21b) which turn ON or OFF a main circuit bridge (10) are connected between the AC side terminals of the main and auxiliary circuit bridges. The AC terminals of the circuit bridges are connected, individually. DETAILED DESCRIPTION - The main circuit bridge (10) consists of several main switch circuits (11-14) which have a main arc extinguishing element and a diode connected in series. The auxiliary bridge circuit (30) has several auxiliary circuit switches (31-34) which have parallelly connected series circuit of arc extinguishing element and a diode.
- USE - None given.
- ADVANTAGE - Switching loss during turn OFF of main circuit switch is reduced, hence conversion efficiency is improved. DESCRIPTION OF DRAWING (S) - The figure shows circuit block diagram of electric power convertor. (10) Main circuit bridge; (11-14) Main switch circuits; (21a,21b) Commutation reactors; (30) Auxiliary bridge circuit; (31-34) Auxiliary circuit switches; (31e-34e) Commutator capacitors.
- (Dwg. 1/16)

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PAJ

- TI - CURRENT TYPE POWER CONVERTER CIRCUIT
- AB - PROBLEM TO BE SOLVED: To reduce a voltage stress or switching loss during turn-on or turn-off of a semiconductor element constituting a main circuit switch by providing a resonance circuit by a commutation capacitor constituting an auxiliary switch circuit with a commutation reactor.
- SOLUTION: A current type power converter is constituted of a DC power supply 1, a DC reactor 2, a two-phase main circuit bridge comprising 4 sets of main circuit switches 11 to 14, and a two-phase auxiliary circuit bridge 30 comprising 4 sets of auxiliary switch circuits 31 to 34 and two sets of commutation reactors 21a, 21b. By these, a voltage stress of switching loss during turn-on or turn-off of a semiconductor element constituting the main circuit switches 11 to 14 can be reduced and, as a result, a current type power conversion circuit can be made compact and its conversion efficiency can be improved.

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